Computer and Electronics Recycling *(FAQ's and a list of places where to recycle)*

1) Why are electronics in waste a concern?
Electronics are a small but fast-growing portion of the waste stream. As consumers trade in their TVs for HDTVs, VCRs for DVD players, and older computers for faster computers, municipalities have been forced to deal with these disposed products. Rapid changes in computer technology and the emergence of new electronic gadgets, such as PDAs (e.g. Palm Pilots) and MP3 players, are only exacerbating the problem.

In addition, there are often hazardous constituents in cathode ray tubes (CRTs), circuit boards, and batteries. Substantial amounts of lead, cadmium, hexavalent chromium, mercury, and brominated flame retardants exist in electronics. Mercury from municipal solid waste (MSW) combustion is a potentially significant source of mercury in the environment. After batteries, lead from electronics is the largest source of lead in MSW. If improperly handled, these toxics could potentially be released into the environment through incinerator ash or landfill leachate.

Also, electronic products are made with valuable components and raw materials that can be reused or recycled. In 1998, over 112 million pounds of materials were recovered from electronics, including steel (43.9 million pounds), glass (29.2 million pounds), plastic (14.4 million pounds), aluminum (9.9 million pounds), copper (7.9 million pounds), and precious metals (2.2 million pounds) (NSC 1999).

2) What percent of municipal solid waste (MSW) is electronics?
According to various reports, electronics is approximately 1-4% of the municipal solid waste stream. EPA is currently performing research to estimate the amount of production, generation, and recovery of consumer electronics occurring annually in the US. This data will provide a specific breakout of the Miscellaneous Durable Goods Category currently reported in the MSW Characterization Report (also known as the Franklin Report). European Union estimates indicate that electronic and electrical equipment waste is growing 3 times faster than municipal solid waste.

3) What kind of materials are of concern in electronics?
Electronics have the following hazardous constituents:
Monitors: Cathode Ray Tubes (CRTs) in monitors and TVs utilize lead to shield the user from radiation.

Printed circuit boards: Many electronic and electrical products have printed circuit boards, which can contain chromium, lead, beryllium, mercury, cadmium, nickel, and zinc; lead solder is used to hold components onto circuit boards.

Batteries: Printed circuit boards and household electronics often contain batteries that have numerous hazardous metals, including mercury, nickel, cadmium, and lead.

Mercury-containing components: Mercury switches and relays are found in electronic and electrical products.

Laptops: In addition to the materials in monitors and CPUs, laptop computers have a small mercury-containing flourescent lamp in the screen.

Peripherals: Printers utilize circuit boards, batteries, and toner cartridges. Copiers will have selenium or chromium drums.

Older electronics that were made before 1978 may contain polychlorinated biphenyl (PCB) capacitors, as well as mercury relays.

Because of their prevalence and toxic-bearing components, the following electronic appliances have been identified by Minnesota for priority attention: all computers and peripherals, TVs and video monitors, copying machines, stereo and stereo components, telephones and fax machines, and VCRs.
(Sources: Industrial Recycling Services 1999, MOEA 1995)

Recycling Statistics and Trends

4) What are the trends in electronics waste generation?
Electronics are a growing part of the waste stream. In the next five years, over 250 million personal computers will become obsolete (NSC 1999). Increasing technological change and decreasing chip costs are spurring the development of new products and driving the obsolescence rates of older electronics. This is evidenced by the average lifespan of PCs, which is falling from 4.5 years in 1992 to an estimated 2 years in 2005 (NSC 1999). In 2002, the number of obsolete personal computers will exceed the number of personal computers shipped by 3.4 million units (NSC 1999).

Interesting Statistics

- There are approximately 1.6 billion consumer electronic products in use in America. (Consumer Electronics Association web site 2000)
- 98% of U.S. households own a color TV; 44% of U.S. households own a personal computer. (Consumer Electronics Association web site 2000)
- There were 19.1 million PCs in the U.S. in 1985; by 1995 there were 91.5 million PCs. It is estimated that there will be 154 million PCs in the U.S. by 2000. (Time Almanac 1999)
- 20.6 million PCs became obsolete in 1998; only 6% were recycled. (NSC 1999)
- By 2005, it is predicted that over 680 million computers will have been sold in the U.S. 143 million computer will be recycled and 55 million will be landfilled. (Matthews 1997)

5) What are the trends in electronics recycling?
Electronics recycling is a nascent but growing industry. Over 9.7 million units (275 million pounds) of electronic equipment were recycled in 1998 alone (NSC 1999). Computer peripherals, desktop PCs, and CRT computer monitors are the most common equipment recycled; however, the actual percentage of electronics recycled is low. 6% of PC CPUs were recycled in 1998, with TVs and mainframes experiencing even lower rates of recycling (NSC 1999). By comparison, over 64% of white goods are recycled annually in the U.S. (MSW Characterization Report 1999).

Regardless of changes in policy, electronics recycling activity will grow 18% annually between 1998 and 2007. This growth will be from new business entry and increased handling volume from large facilities. Estimates indicate that over 40 million units of electronic equipment will be recycled in 2007, with notebook PCs and desktop CPUs experiencing significant growth in recovery (NSC 1999). A Carnegie Mellon report estimates that nearly 150 million computers will be recycled in 2005 (Matthews 1997).

6) Who is recycling and where?
Currently, 75% of the equipment that is being recycled comes from electronics manufacturers and large organizations (>500 employees). This equipment is being recycled by a small group of companies due to the large capital investment, significant infrastructure, and established relationships required. In the US, the top 5 firms recycle more equipment than all the other companies combined. In addition, electronics recyclers are geographically concentrated; half of all electronics recycling firms are in the Mid-Atlantic and Mid-West regions of the US. Only a very small amount of electronics is being recovered from households. (Source: NSC 1999)

7) Which Original Equipment Manufacturers (OEMs) are providing take back services?
A number of OEMs, including Compaq, Dell, Gateway, HP, IBM, and Micron, offer leasing and takeback services. While environmental considerations are a factor, demand from large corporate customers are driving the development of these services. Some OEMs, such as HP, are taking computers back from their higher volume customers but do not widely advertise these services. Overall, corporate customers are becoming aware about the possible implications of improper disposal, such as regulatory liability and proprietary information loss.

Compaq Computer Asset Recovery Services (CARS)
http://www.digital.com/das039hm.html
Compaq Computer Asset Recovery Services (CARS) offers a comprehensive program that incorporates

resale, refurbishment, parts recovery, and recycling for any brand of computer-related equipment. Advantages of the Compaq program include transportation coordination, Superfund/RCRA indemnification, and detailed reporting. For large contracts, Compaq offers a net revenue sharing arrangement. To learn more about Compaq's program, call 1 (800) 580-7370.

Dell Asset Recovery Programs
http://www.dell.com/us/en/hied/services/asset_000.htm
Dell Financial Services offers two asset recovery programs. The Value Recovery Services (VRS) program, which includes data cleansing and equipment disposition reporting, is designed for functional equipment that has economic value. By contrast, the PC Recycling Services program is for non-functional or outdated equipment.

Gateway Trade In Programs
http://www.goodwill.org/NEWS/2000/gateway.html
Gateway, in conjunction with Goodwill Industries, recently began a program that gives consumers a $100 discount on a new PC for donating a functioning 386 or better computer (any manufacturer) to their local Goodwill. The donated computers will be used primarily in Goodwill's job training and computer centers. In addition, Gateway also has a Trade In Program for businesses that allows companies to sell old computer equipment and receive credit for new Gateway products. For more information, call 1 (800) 779-2000.

IBM Product End-of-Life Management (PELM) Program
http://www.pc.ibm.com/us/healthycomputing/envreport/end.html
For a fee, IBM's U.S. customers can dispose of IBM and non-IBM equipment through the Product End-of-Life Management (PELM) Program. IBM operates a worldwide network of material recovery centers for collecting used IT equipment. In 1996 alone, IBM reutilization centers processed over 88 million pounds of equipment; over 85 percent of the equipment was either reused or recycled.

Micron Green Recycling Program
http://www.micronpc.com/programs/mpower/ind_recycle.html
Under Micron's Green Recycling Program, companies can trade in there old or non-functioning computers for a rebate on new Micron computers. Micron bears the cost of shipping and will dispose the computers "through environmentally-friendly, EPA-approved methods." Companies, however, are expected to purchase at least as many PC as was returned, and there is a $75 per system fee for trade-ins of fewer than five computers.

Regulatory Requirements
8) What are the regulatory requirements for generators of CRTs?
The cathode ray tubes (CRTs) in color computer monitors and televisions are often hazardous when discarded because of the presence of lead in the CRT. Although the lead is probably not an environmental problem while the monitor or television is intact, the lead may leach out under conditions typical of municipal landfills. Federal regulatory requirements applicable to handling these materials vary. Facilities that are disposing or recycling used CRTs should always check their state regulatory requirements, which may be different from federal regulatory requirements.

Households: Used computer monitors or televisions generated by households are not considered hazardous waste and are not regulated under federal regulations.

Donation or Resale: Monitors and televisions sent for continued use (i.e., resold or donated) are not considered hazardous wastes.

Small Quantities Exempt: Businesses and other organizations are not regulated under most federal requirements if the facility discards less than 100 kilograms (about 220 pounds) per month of hazardous waste (including used CRTs), adding together all hazardous waste generated by the facility. (These wastes must still go to a facility authorized to receive solid waste.)

Large Quantities: Wastes from facilities that generate over 100 kilograms (about 220 lb.) per month of hazardous waste are regulated under federal law when disposed. CRTs from such facilities sent for disposal must be manifested and sent as "hazardous waste" to a permitted hazardous waste landfill. CRTs sent for recycling from such facilities are also currently subject to Federal regulation; however, US EPA is in the process of streamlining requirements to make it easier and less costly to send CRTs for recycling. A proposed rule to this effect will be issued shortly. In the meantime, some states are addressing this issue, for example by handling these materials as "universal waste", and thereby reducing the management requirements applicable to the recycling of CRTs. Therefore, organizations should consult their states.

Note: This discussion summarizes relevant federal regulatory requirements. For the complete federal hazardous waste requirements for generators, consult 40 CFR Parts 260-262.

9) What are the requirements for circuit boards?
Regulatory requirements for circuit boards are as follows:

Whole unused circuit boards are considered unused commercial chemical products, which are unregulated.
Whole used circuit boards meet the definition of spent materials but also meet the definition of scrap metal. Therefore, whole used circuit boards that are recycled are exempt from the hazardous waste regulations.
Shredded circuit boards are excluded from the definition of solid waste if they are in containerized storage prior to recovery. These shredded circuit boards cannot contain mercury switches, mercury relays, Ni-cad batteries, or lithium batteries.
Note: More information on this topic can be found in Section X. Regulatory Interpretations.

10) How many CRTs do you have to throw out in a month to be covered by hazardous waste requirements?
Full RCRA hazardous waste regulations do not apply to households or **Conditionally Exempt Small Quantity Generators (CESQG)**– generators of less than 100 kilograms (220 pounds) of hazardous waste per calendar month. Estimates indicate that a CRT monitor weighs 30 pounds, while a CRT TV weighs 50 pounds (NSC 1999). Consequently, a business that disposes *as few as 5 TVs in a month* may be subject to hazardous waste regulations. However, a number of states are interpreting RCRA to not require the full hazardous waste requirements on CRTs. Check with your state for its interpretation.

11) What are the different state interpretations?
States have taken a variety of approaches toward CRT management. Some states, such as Massachusetts and Florida, have taken steps to streamline hazardous waste regulations for CRTs, resulting in higher levels of recycling. On the other hand, California considers CRTs to be spent materials and regulates all CRT as hazardous waste. Many states are currently developing Universal Waste exemptions for CRT. Minnesota, in particular, considers CRTs to be electric lamps, which are already part of that state's Universal Waste Rule. New York utilizes its scrap metal exemption for whole intact CRTs that will be recycled. (A table on state interpretations can be found in CRTs and LCDs chapter on p. 16)

12) What is the Universal Waste Rule that EPA is working on and its status?
In 1995, the Universal Waste Rule was promulgated by EPA for certain widely generated wastes. By lowering administrative burdens, the rule is intended to reduce hazardous waste in MSW, encourage recycling and proper disposal of certain hazardous wastes, and reduce administrative and regulatory burdens for businesses that generate these wastes. The Universal Waste Rule currently includes hazardous waste batteries, certain agricultural pesticides, thermostats, and hazardous waste lamps. States that are authorized to implement the RCRA program may add other wastes to their Universal Waste Rule.

EPA is planning to add used CRTs from computers and television monitors to the federal Universal Waste Rule. In addition, EPA is currently developing a regulatory exemption for processed glass sent for CRT glass-to-glass recycling. A proposed rule will be published in the Federal Register by February 2001. For

more information, contact Marilyn Goode at (703) 308-8800 or goode.marilyn@epa.gov or Javier Garcia at (703) 308-2628 or garcia.javiera@epa.gov

State Activities on Collection/Recycling

13) What are states doing in terms of experimenting with collection recovery?

States and municipalities have recognized the importance of collection with regard to electronics recovery. As part of EPA's Common Sense Initiative (CSI), five pilots (San Jose, CA; Hennepin County, MN; Naperville/Wheaton, IL, Somerville, MA/Binghamton, NY, and Union County, NJ) were examined. Utilizing a number of collection approaches, analysis showed significant variability in program costs for electronics recovery.

Massachusetts has used a 4-tiered approach that includes a state contract to pay for recycling, regional grants for collection facilities, research for market development, and a landfill ban on CRTs to encourage recycling. Collection in Massachusetts has focused on dropoffs and curbside.

Minnesota, on the other hand, has pursued a shared responsibility approach with Sony, Panasonic, Waste Management, and the American Plastics Council to examine a number of collection strategies and market development opportunities. Over a period of 3 months, 65 collection sites were sponsored which encompassed a variety of collection strategies, including curbside collection, retail store collection, and numerous drop off options.

Florida is also developing a 4-part approach by streamlining regulatory requirements, funding recycling infrastructure development, creating pilot collection projects, and executing a state contract for use by Florida governmental agencies.

Actual approaches to recovery vary by state. For example, South Carolina's legislature in 1999 considered a bill that would establish a statewide electronic equipment recycling program which would be funded by a $5 fee on each CRT sold. The bill may be introduced again this year. New Jersey continues to sponsor the Union County collection pilot.

14) What are the critical cost considerations for collection program success?

A growing body of pilot projects and research has been performed on collection, but differences in information collected have led to unanswered questions. Data gaps exist in a number of areas, including up-front costs, operational costs, and transportation costs (to the demanufacturer/recycler). In addition, economies of scale effects, which should lower program costs in the long run, have not been fully documented. Nevertheless, some general conclusions can be reached:

- Transportation, demanufacturing, and disposal are the main cost considerations for collection pilots. New programs, however, incur a number of one-time costs. Operational costs may be more relevant in the long-term.
- Recovered computers have the most material value, but CRTs, which are costly to manage, are frequently collected. The number of CRTs managed has a major impact on net cost values.
- Curbside collection programs yield more pounds of material per resident than other collection models, but the number of items collected per dollar of collection program cost is highest for curbside collection.
- Significant promotion and planning is essential to adequate turnout, and hence, overall collection program effectiveness.
- Geographical location affects transportation costs to demanufacturers and recyclers. For example, CRT recyclers are more prevalent on the east coast, leaving smelters as more viable options for the Midwest and West regions.
- Compared to residentially collected electronics, commercial used electronics has a higher recovered value, is more uniform, and is easier to disassemble.
- The ability to sell just a few products for positive income can make a big difference in the overall cost of a collection program.

End Markets

15) Are used computers shipped overseas?

There is a substantial overseas market for used computers and CRTs. It is unclear what the volume of electronics are going overseas, or what these electronics are being used for. However, the prices that are being paid for used CRTs ($8/each) seem to indicate that repair and not just disposal is occurring.

16) What are the issues associated with reuse and resale?
Reuse and resale are potential outlets for recovered computers. Schools, non-profits, and low-income households, as well as foreign markets, often welcome the opportunity to acquire older computers. Laws, such as the 21st Century Classrooms Act for Private Technology Investment (a provision to the Taxpayer Relief Act of 1997), provide tax incentives for corporations to donate late model computers. However, new computers continue to be faster and cheaper, thereby creating hurdles to effective computer reuse. In addition, donated equipment varies greatly in quality and reusability. According to Florida DEP, only one usable computer can be made out of every three computers donated.

The availability and cost of computer software for older computers has also been a significant barrier to computer reuse. Because of copyright requirements, valuable computer software, such as WordPerfect or Windows, is often erased from computers prior to donation. However, some companies, such as NewDeal (http://www.newdealinc.com/), have begun to address this issue by providing software that runs on newer Pentium III machines as well as older 286 and 386 computers. For $70, New Deal provides software that includes a Windows 98-like operating system and a Microsoft Office-like productivity suite (word processor, database, spreadsheet, web browser, and e-mail).

For information about viable computer donation options in your area contact Julie Rhodes, Executive Director of ReDo, at (317) 631-5395 or info@redo.org

Computer Donation Facilities Mid Atlantic

Listed below are some of the facilities in the Mid Atlantic Area which will recycle or reuse old computers and electronics.

Delaware

Computer Recycling Center
Goodwill Industries of Delaware
300 East Lea Boulevard
Wilmington, DE
302-761-4646

Partners in Technology for Delaware's Schools (Par - Tech) 655 Glenwood Avenue
Smyrna, DE 19977-1206
Phone: (302) 659-6885 Fax: (302) 659- 6887
http://www.doe.state.de.us/partech/index.htm
Program Managers: Steve Ballard
x 3423 e-mail: sballard@partech.k12.de.us
John McClenny x 3424
e-mail: jmcclenny@partechK12.de.us

Goodwill Industries of DE & DE County , PA
The Goodwill Center
300 East Lea Boulevard
Wilmington, DE 19802
Contact Judi Volpini

302-761-4644 ext. 223
e-mail: jvolpini@goodwillde.org or jvolpini@aol.com

Delaware Department of Correction
Computers for Classrooms -Gander Hill Prison
1301 East 12th Street
Wilmington, DE 19801
Phone: (302) 429-7186
Ron Parrott, Computer Center Manager
E-mail: ronparrot@hotmail.com

Also the following Goodwills in DE Recycle PCs
GoodWill Industries of Delaware- Bear
Goodwill Industries of Delaware- Claymont
Goodwill Industries of Delaware- Dover
Goodwill Industries of Delaware- Gateway West
Goodwill Industries of Delaware - Hockessin
Goodwill Industries of Delaware- New Castle
Goodwill Industries of Delaware- Newark
Computer Recycling Center: GoodWill Industries of of Delaware- Market St Wilmington DE

District of Columbia
Davis Memorial Goodwill Industries
2200 South Dakota Avenue, N.E.
Washington, D.C. 20018
202-636-4225 ext. 1245
Contact: Gene Ficara

UNICOR Federal Prison Industries, Inc.
320 First Street, NW
Washington, DC 20534
(202) 305-3884 Fax: (202) 305-7354
Email: danthony@central.unicor.gov
Contact: Diane Anthony
Web Site: www.unicor.gov
No products accepted from individuals, works with communities on collection events. Usable equipment is repaired, donated, or sold. Unusable, excess materials are sold for parts or scrap. UNICOR operates computer recycling facilities in Florida, Ohio, and NJ.

Maryland
Computer Reclamation, Inc.
Contact: Michael Wiggins
912 Thayer Avenue, Suite 210
Silver Spring, MD 20910
(301) 495-0280

DMC The Electronics Recycling Company
Maryland Processing Center
11710 Hopewell Road
Hagerstown, MD 21740
301-582-6190 Fax 301-582-6259
e mail rcamp@dmcrecycling.com or info@dmcrecycling.com
web site: http://www.dmcrecycling.com/

Lazarus Foundation
10378 Eclipse Way
Columbia, MD 21044
410-740-0735
Contact: Larry Medoff or Don Bard
e-mail address: lazaruspc@aol.com
web page: www.lazarus.org

The Phoenix Project Contact: Art Silvergate
8623 Spruce Run Court
Ellicott City, MD 21043
410-750-2435/301-731-9062

Mantech Advanced Systems Int'l
6730 Baymeadow Drive, #C
Glen Burnie, MD 21060
Mr. Alex Rosa, Warehouse Supervisor
410-863-5583 Ext. 152

Subtractions, LLC
7202Mink Hollow Road
Highland, Md 20777
301-924-0605 2266fax
wilsonmanning@msn.com www.subtractions.net
Warehouse 10630 Riggs Hill Road
Jessup, MD 20794

Computer Donation Management
Contact: Michael T. Fannon & Bob Donald
3200 James Street
Baltimore, MD 21230
Phone: (410) 525-1400 410 644-9400
Fax: (410) 646-5878 Email: cdm5@earthlink.net

Pennsylvania

Azcon, Inc.
415 North 15th Street, 2ND Floor

Allentown, PA. 18102
610-821-5550 Fax 610-821-5727
e-mail :wcook@azcon.com
web site: http://www.azcon.com/

Carnegie Mellon Computer Recycling Center
Cyert Hall, Room A-75
Pittsburgh, PA 15213
412-268-7801

Chase Electronics
166 Academy Road
Upper Darby, PA 19082
610-449-8160 Fax 610-449-6393
e-mail : Chase-el@juno.com
web site: www.chaserecycling.com
Ms. Chase Dalluran

Elemental, Inc. Contact: Karen Petherbridge
2371 Church Street
Philadelphia, PA 19124
215-289-1475 215-289-4914fax
e-mail: eleminc@aol.com
web site: www.eleminc.com

Envirocycle, Inc.
Rt. 81 Exit 68 PO Box 899
Hallstead, PA 18822-0899
Tel: 717/879-2862 or 1-800-711-6010
Fax: 717/879-2008
web site: http://www.enviroinc.com/
e-mail enviro@epix.net

Goodwill Computer Recycling Center - Pittsburgh
2600 East Carson Street
Pittsburgh, PA 15203 412-481-9049
Contact: Lisa Campbell
e-mail : john@goodwillpitt.org

LibertyNet
3624 Market Street
Philadelphia, PA 19104 215-387-6440
Contact: Chris Higgins email: vols@libertynet.org

Philadelphia Area Computer Society
1900 W. Olney Avenue

Philadelphia, PA 19141
215-842-9600
www.pacsnet.org E-mail prez@pacsnet.org

Advanced Recovery, Inc. (NJ)
3 Montgomery Street-B
Belleville New Jersey
Tel: 973 450-9797 Fax: 973 450-8779
Eric Buechel visitus@advancedrecovery.com

Computer Services, Inc. (University City High School)
3601 Filbert Street
Philadelphia, PA 19104 215-387-5379
Contact: Anne Urevick

NonProfit Technology Resources
1508 Brandywine Street
Phila, PA 19130 215-564-6686/ 6642 fax
Contact Stan Pokras http://www.libertynet.org/ntr/
ntr@libertynet.org

Second Source
1241 West Chester Pike
West Chester, PA 19382
610-692-9200/ 8304 fax
esales@secondsourceonline.com

Share the Technology - New Jersey/Philadelphia area
PO Box 548
Rancocas, NJ 08073 609-234-6156
Barry Cranmer, recycle@sharetechnology.org

The Computer Hardware Initiative Project (CHIP)
Pennsylvania State University
State College, PA
www.scholars.psu.edu/CHIP/

Tripil - Ed Pahula - Serving Washington & Fayette cos.
69 East Beau Street
Washington, PA 15301
724-223-5115 pahula@tripil.com

Virginia

American Computer Clearance
1609 Rhoadmiller Street
Richmond, VA 23220
Mr. William Breckenridge 804-353-2727

Logistics Operation Center
7000 Loisdale Road, Bldg. B
Springfield, VA 22150
Ms. Mary Kay Snow, Environmental Safety Officer
703-922-3018

Educational Institutions Partnerships Program
Defense Information Systems Agency
701 South Courthouse Road
Arlington, VA 22204-2199
703-696-1904 Sharon Sellers or Gina Meehan

Gifts in Kind International
333 North Fairfax Street
Alexandria, VA 22314
703-836-2121

R. Frasier, Inc.
PO Box 1385
Salem, VA 24153
800-727-4258
Contact: Martin Skelly

Second Chance Program
10700 Page Avenue
Fairfax, VA 22030
703-246-4542
Contact: Bob Kelly bkelly@morino.org

West Virginia

Mission West Virginia
916 Fifth Ave. - P.O. Box 595
Huntington, WV 25710-0595
Phone: 304-523-2255 Fax: 304-523-2257
mwv@missionwv.org

Argonaut
519 Bridge St.
Huntington, WV 25702-3066
Phone:800-527-4662 Fax:800-344-2240 Email: none

Contact: Mr. David Biggs
Web Site: www.argoclub.com
Products Accepted: cpu,monitor,computer_peripherals
Product Description:Computer equipment only. Should be in fairly good condition; will accept older equipment (more than 8 years) Comment: No fee charged to bring equipment. Call ahead.

Restoration Station
P.O. Box 359
Grantsville, WV 26147
Phone: 304-354-7786
Email: rstation@access.mountain.net

The federal donation program for computers web site:
www.computers.fed.gov

Circuit City is planning to starta national effort to collect used TVs, computers and other electronics at their stores, when you purchase a new one.They have 4 processors who will handle the electronics from their service department.

The Following resources are also good overall sites containing information on recycling or reusing electronics.

1. The International Association of Electronic Recyclers site (ww.iaer.org) has a great search tool to find the nearest computer recycler near you, the search page is at http://www.iaer.org/search/iaersearch.cfm

2. The Electronics Industry Alliance has an excellent web site which will point consumers to outlets for their end of life electronic equipment(including computers) on the web at http://www.eia.org/index3.cfm?front_info_key=2

3. Also check out the PEP National Directory of Computer Recycling Programs PEP: Resources for Parents, Educators & Publishers. A State, National and International Directory of agencies that facilitate donations of used computer hardware for schools and community groups: the site for Maryland is at http://www.microweb.com/pepsite/Recycle/Maryland.html

4. If you have no luck with these try The PC Donate & Retrofit Clearinghouse on the web at http://www.dataanalysis.com/PCDAR.htm or the Computer and Electronics portion of the Prevention, Recycling & Solid Waste Bookmarks File at http://epainotes1.rtpnc.epa.gov:7777/r10/owcm.nsf/recycle/recbooks#computers

5. You may also want to look at the following web sites which have computer recycling information.
Share the Technology - P.O. Box 548 - Rancocas, NJ 08073 NEW AREA CODE - (856) 234-6156
http://www.libertynet.org/share/

The Mid-Atlantic Consortium of Recycling and Economic Development Officials (MACREDO)
http://www.libertynet.org/macredo/elecapc.htm

The federal donation program for computers web site:

www.computers.fed.gov

6. Computer Donations

Want to donate a computer to an educational or community group? Here are some places that can use your used machine:

The Children's Project, a group based in King of Prussia, has developed Project 2000, which collects, repairs and distributes used computers to disadvantaged families. For more information: 610-337-4434.

National Cristina Foundation of Stamford, Conn., accepts old computers, refurbishes and donates them to nonprofit organizations. For details, call 1-800-274-7846.

Non-Profit Computing Inc. of New York accepts donations of used computers, fax machines, telephone systems and other telecommunications equipment and places machines with nonprofit, educational and government organizations around the world. Call 212-759-2368.

Ogontz Avenue Art Co. of Philadelphia accepts computers from corporations and individuals. The donated machines are used to teach inner-city children. Once the children learn the skills, they get to keep the computers. For more information: 215-886-4933.

Urban Technology Project, a School District of Philadelphia initiative in Hunting Park, is a student-run refurbishing and recycling program that distributes donated computers to schools and community agencies, primarily in North Philadelphia. Call: 215-227-0600 or toll-free, 877-294-2310.

Nonprofit Technology Resources of Philadelphia accepts 486 or later computers, VGA monitors and dot-matrix printers for low-income families after use in hardware maintenance classes. For more information: 215-564-6686.

EPR2 Project Electronic Equipment Recyclers Contact List
http://www.nsc.org/ehc/epr2/cntctlst.htm#PA

The National Recycling Coalition's (NRC) National Database of Electronics Recyclers, Reuse Organizations, and Municipal Programs is on the web at
http://www.nrc-recycle.org/programs/electronics/search/getlisting.asp